

In the Claims:

Please amend the claims as follows:

Claim 1 (Currently amended) A sub-sea controller ~~(31)~~ located under the sea level for managing a plurality of tools in a sub-sea well installation, the sub-sea controller ~~(31)~~ comprising:

downloading means to download an application module ~~(35_a)~~ to the sub-sea controller ~~(31)~~; and
a virtual machine ~~(36)~~ to execute the downloaded application module ~~(35_a)~~.

Claim 2 (Currently amended) The sub-sea controller ~~(412)~~ according to claim 1, further comprising:

a native application ~~(47)~~ implemented within the sub-sea controller ~~(412)~~; and
a native interface ~~(48)~~ implemented within the sub-sea controller ~~(412)~~, the native interface ~~(48)~~ enabling the application module ~~(45_a)~~ to access the native application ~~(47)~~.

Claim 3 (Currently amended) The sub-sea controller ~~(412)~~ according to claim 2, wherein the native interface ~~(48)~~ enables the native application ~~(47)~~ to access the application module ~~(45_a)~~.

Claim 4 (Currently amended) The sub-sea controller ~~(412)~~ according to ~~any one of claims 2 or 3~~ claim 2, further comprising:

a native memory wherein the native application ~~(47)~~ is executed; and
a defined memory wherein the application module ~~(45_a)~~ is executed, the defined memory being distinct from the native memory.

Claim 5 (Currently amended) The sub-sea controller ~~(412)~~ according to ~~any one of claims 2 to 4~~ claim 2, further comprising:

a protection register, the protection register authorizing an access to the native application only if a key code is written hereinto;

accessing means to access the protection register from the application module.

Claim 6 (Currently amended) The sub-sea controller (45_a) ~~according to any one of claims 1 to 5 of claim 1~~ wherein the application module (45_a) contains a driver for a tool.

Claim 7 (Currently amended) A sub-sea well installation comprising a sub-sea controller (31) ~~according to any one of claims 1 to 6 claim 1~~.

Claim 8 (Currently amended) A method for updating a software of a sub-sea controller (31) located under the sea level, the sub-sea controller (31) managing a plurality of tools in a sub-sea well, the method comprising:

- downloading an application module (35_a) into the sub-sea controller (31); and
- executing the application module (35_a) using a virtual machine (36) implemented within the sub-sea controller (31).

Claim 9 (Currently amended) The method according to claim 8, further comprising:

- executing a native application (47) of the sub-sea controller (42) within the sub-sea controller (412);
- executing a native interface within the sub-sea controller (412);
- accessing the native interface from the native application (47) to exchange data with the application module (45_a).

Claim 10 (Currently amended) The method according to claim 8, further comprising:

- executing a native application (47) of the sub-sea controller (42) within the sub-sea controller (412);
- executing a native interface within the sub-sea controller (412);
- accessing the native interface from the application module (45_a) to exchange data with the native application (47).

Claim 11 (Currently amended) The method according to ~~any one of claims 9 or 10 to claim 9~~, wherein the downloading and the executing of the application module (45_a) are

performed without interrupting an executing of the native application of the sub-sea controller ~~(412)~~.

Claim 12 (Currently amended) The method ~~according to any one of claims 9 to 11 of~~ claim 9, further comprising:

- executing the application module ~~(45_a)~~ in a defined memory;
- executing the native application ~~(45_a)~~ in a native memory;
- wherein the defined memory is distinct from the native memory.

Claim 13 (Currently amended) The method ~~according to anyone of claims 8 to 13 of~~ claim 8 wherein the application module ~~(45_a)~~ contains a driver for a tool.

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Claims

- [c1] A sub-sea controller (31) located under the sea level for managing a plurality of tools in a sub-sea well installation, the sub-sea controller (31) comprising:
downloading means to download an application module (35_n) to the sub-sea controller (31); and
a virtual machine (36) to execute the downloaded application module (35_n).
- [c2] The sub-sea controller (412) according to claim 1, further comprising:
a native application (47) implemented within the sub-sea controller (412); and
a native interface (48) implemented within the sub-sea controller (412), the native interface (48) enabling the application module (45_n) to access the native application (47).
- [c3] The sub-sea controller (412) according to claim 2, wherein
the native interface (48) enables the native application (47) to access the application module (45_n).
- [c4] The sub-sea controller (412) according to any one of claims 2 or 3, further comprising:
a native memory wherein the native application (47) is executed; and
a defined memory wherein the application module (45_n) is executed, the defined memory being distinct from the native memory.
- [c5] The sub-sea controller (412) according to any one of claims 2 to 4 further comprising:
a protection register, the protection register authorizing an access to the native application only if a key code is written hereinto;
accessing means to access the protection register from the application module.

- [c6] The sub-sea controller (45_n) according to any one of claims 1 to 5 wherein the application module (45_n) contains a driver for a tool.
- [c7] A sub-sea well installation a sub-sea controller (31) according to any one of claims 1 to 6.
- [c8] A method for updating a software of a sub-sea controller (31) located under the sea level, the sub-sea controller (31) managing a plurality of tools in a sub-sea well, the method comprising:
 - downloading an application module (35_n) into the sub-sea controller (31); and
 - executing the application module (35_n) using a virtual machine (36) implemented within the sub-sea controller (31).
- [c9] The method according to claim 8, further comprising:
 - executing a native application (47) of the sub-sea controller (42) within the sub-sea controller (412);
 - executing a native interface within the sub-sea controller (412);
 - accessing the native interface from the native application (47) to exchange data with the application module (45_n).
- [c10] The method according to claim 8, further comprising:
 - executing a native application (47) of the sub-sea controller (42) within the sub-sea controller (412);
 - executing a native interface within the sub-sea controller (412);
 - accessing the native interface from the application module (45_n) to exchange data with the native application (47).
- [c11] The method according to any one of claims 9 or 10, wherein the downloading and the executing of the application module (45_n) are performed without interrupting an executing of the native application of the sub-sea controller (412).

- [c12] The method according to any one of claims 9 to 11, further comprising:
executing the application module (45_a) in a defined memory;
executing the native application (45_n) in a native memory;
wherein the defined memory is distinct from the native memory.
- [c13] The method according to anyone of claims 8 to 12 wherein the application module (45_a) contains a driver for a tool.